

## AS-i I/O Modules

### AS-i Specification 3.0

Single Slave (up to 31 slaves) or

AB Slave (up to 62 slaves)

Housing with external fastening tabs



(Figure similar)



Figure	Type	Housing	Inputs digital	Outputs digital	Input voltage (sensor supply) (1)	Output voltage (actuator supply) (2)	AS-i connection (3)	AS-i address (4)	Article No.
	I/O modules	surface-mounted box	4	3 x electronic	out of AUX	out of AUX	cage clamp terminals	1 AB slave	<b>BW2139</b>
	I/O modules	surface-mounted box	4	4 x electronic	out of AUX	out of AUX	cage clamp terminals	1 AB slave	<b>BW2137</b>
	I/O modules	surface-mounted box	4	4 x electronic	out of AUX	out of AUX	cage clamp terminals	1 single slave	<b>BW2175</b>
	I/O modules	surface-mounted box	4	–	out of AUX	–	cage clamp terminals	1 single slave	<b>BW2466</b>
	heating/air conditioning (valves)	surface-mounted box	–	4 x electronic	–	out of AUX	cage clamp terminals	1 single slave	<b>BW2138</b>

(1) **Input voltage (sensor supply):** inputs are supplied by AS-i or by AUX (auxiliary 24 V power). If supplied by AS-i, inputs shall not be connected to earth or to external potential.

(2) **Output voltage (actuator supply):** outputs are supplied by AS-i or by AUX (auxiliary 24 V power). If supplied by AS-i, outputs shall not be connected to earth or to external potential

(3) **AS-i connection:** the connection to AS-i as well to AUX (auxiliary 24 V power) is made via yellow resp. black AS-i profile cable with piercing technology or via M12 socket (in IP20 via clamps).

(4) **AS-i address:** 1 AB slave (max. 62 AB slaves/AS-i network), 2 AB slaves (max. 31 modules with 2 AB slaves), single slaves (max. 31 single slaves/AS-i network), mixed use allowed.

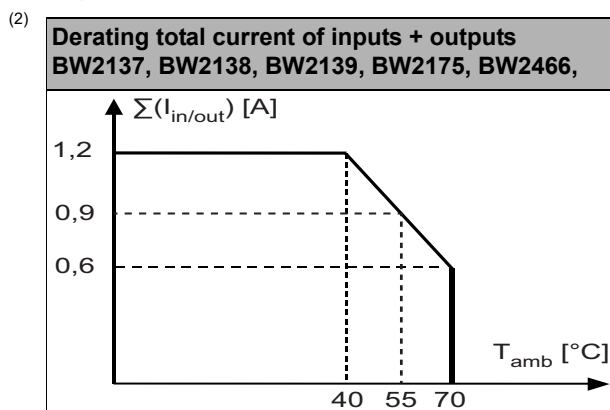
For modules with two slaves the second slave is turned off as long as the first slave is addressed to address "0".

Upon request, slaves are available with specific AS-i slave profiles.

Article no.	BW2466	BW2139	BW2137	BW2175	BW2138
<b>General data</b>					
Device type	input	input / output			output
<b>Connection</b>					
AS-i / AUX connection	cage clamp terminals				
Periphery connection	cage clamp terminals				
Length of connector cable	I/O: max. 15 m <sup>(1)</sup>				
<b>AS-i</b>					
Profile	S-7.A.7 ID1=F (default)	S-7.A.E ID1=7 (default)	S-7.A.7 ID1=7 (fixed)	S-7.F.E ID1=F (default)	S-8.F.E ID1=F (default)
Address	1 Single Slave	1 AB Slave			1 Single Slave
Required Master profile	≥M4	≥M3	≥M4	≥M0	
Since AS-i specification	3.0	2.1	3.0	2.0	
Operating voltage	30 V (18 ... 31.6 V)				
Max. current consumption	70 mA				
Max. current consumption without sensor/ actuator supply	≤ 20 mA				
<b>AUX</b>					
Voltage	24 V (20 ... 30 V)				
Max. current consumption	1,2 A				

Article no.	BW2466	BW2139	BW2137	BW2175	BW2138
<b>Input</b>					
Number	4				–
Power supply	out of AUX				
power supply of attached sensors	up to +40 °C	$\Sigma$ (inputs+outputs) 1,2 A <sup>(2)</sup>			–
	at +55 °C	$\Sigma$ (inputs+outputs) 0,9 A <sup>(2)</sup>			–
	at +70 °C	$\Sigma$ (inputs+outputs) 0,6 A <sup>(2)</sup>			–
Switching threshold	U < 5 V (low) U > 15 V (high)				–
<b>Output</b>					
Number	–	3 x electronic	4 x electronic		
Power supply	out of AUX				
Max. output current	up to +40 °C	–	0,5 A per output $\Sigma$ (inputs+outputs) 1,2 A <sup>(2)</sup>		
	at +55 °C	–	0,5 A per output $\Sigma$ (inputs+outputs) 0,9 A <sup>(2)</sup>		
	at +70 °C	–	0,5 A per outputs $\Sigma$ (inputs+outputs) 0,6 A <sup>(2)</sup>		
<b>Display</b>					
LED ASI (green)	an: AS-i voltage on, flashing: AS-i voltage on, but peripheral fault <sup>(3)</sup> or address 0 off: no AS-i Voltage				
LED FLT/FAULT (red)	an: slave address 0 or slave offline flashing: peripheral fault <sup>(3)</sup> off: slave online				
LED AUX (green)	an: 24 V <sub>DC</sub> AUX off: no 24 V <sub>DC</sub> AUX				
<b>Environment</b>					
Applied standards	EN 61000-6-2 EN 61000-6-4 EN 60529				
Operating altitude	2000 m				
Ambient temperature	-25 °C ... +70 °C <sup>(2)</sup>				
Storage temperature	-25 °C ... +85 °C				
Housing	plastic, for screw mounting				
Protection category	IP54				
Voltage of insulation	$\leq 15$ g, T $\leq 11$ ms 10 ... 55 Hz, 0,5 mm amplitude				
Allowable shock and vibration stress	$\geq 500$ V				
Weight	155 g				
Dimensions (W / H / D in mm)	93 / 93 / 55				

(1) Loop resistance  $\leq 150 \Omega$



(3) see table „peripheral fault indication“

Article no.	Peripheral fault indication	
	output short circuited	AUX voltage missing
BW2137	•	•
BW2138	•	•
BW2139	•	•
BW2175	•	•
BW2466	-	•

Programming	Bit setting			
	D0	D1	D2	D3
	input			
BW2137 / BW2175 / BW2466	I1	I2	I3	I4
BW2139	I1	I2	I3	-
	output			
BW2137 / BW2138 / BW2139 / BW2175	O1	O2	O3	O4
	parameter bit			
	P0	P1	P2	P3
BW2137 / BW2138 / BW2139 / BW2175 / BW2466	0 = off / 1 = on (watchdog)	0 = on / 1 = off (data input filter 128 µs)	0 = on / 1 = off (synchronous I/O mode)	not used
<b>Programming instruction</b>				
address preset 0, changeable via bus master or programming devices				

Name	Explanation
Ix	digital input x
Ox	digital output x
24V <sub>ext.out</sub>	sensor supply
0V <sub>ext.out</sub>	GND for outputs (PNP)
24V <sub>ext.in</sub>	input for power supply, out of external voltage, positive pole
0V <sub>ext.in</sub>	input for power supply, out of external voltage, negative pole
ASi +, ASi -	connection to ASi bus

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